

hindering the use of an organ or a faculty may strengthen or weaken it : the resulting development or degeneration may become fixed hereditarily in the offspring. The eyes of a newt (Proteus), which lives in the dark waters of the Adelburg cave, have become quite rudimentary and sightless. The horses of a mountain country are born with hoofs that will stand the jarring of hard rocks and city pavements much better than those of lowland breeds. Physical changes that are caused by mutilation are, as a general rule, not inherited : nor should we expect them to be, since sudden modifications of an organ would not affect the germ-plasm so strongly as modifications which have resulted from gradual pressure. But cases are numerous in which mutilations have been passed on to offspring in one of the most curious. a cat with a broken tail bore kink-tailed kittens. her tendency to transmit her defect increasing with each successive litter until not one of her kittens was born with a straight tail. It has been demonstrated that guinea pigs, which have become epileptic from a surgical operation, may transmit an epileptic tendency to their offspring.

A sudden change of environment appears to stimulate the occurrence of mutations or "sports." Under the artificial conditions of domestication plants and animals sport much more freely than in their natural wild state—display, that

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eccentricities of form which are  
heritable and are  
seized upon by breeders as a means of  
developing  
new varieties. The numerous breeds  
of dogs.  
fowls and pigeons have for the most part  
from these sudden eccentricities: they  
assisted by cross breeding and intense  
selection. we owe a large proportion of  
conspicuous garden flowers and our  
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